

Assignment 1

Vvm140130

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```
#include<stdio.h>
```

```
#include<stdlib.h>
```

```
//creating the node
```

```
struct node
```

```
{int n;
```

```
    struct node *next;
```

```
};
```

```
// creating the list by taking input from user
```

```
struct node* create(struct node *head)
```

```
{ int no, t=1;
```

```
    struct node *item;
```

```
    printf("enter the numbers. press -1 to stop\n");
```

```
    while(t)
```

```
    {
```

```
        scanf("%d",&no);
```

```
        if(no!=-1)
```

```
        {
```

```
            if(head==NULL)
```

```
            { item=(struct node *)malloc(sizeof(struct node));
```

```
              head=item;
```

```

        }
    else
    { item->next=(struct node *)malloc(sizeof(struct node));
      item=item->next;
    }
    item->n=no;
    item->next=NULL;
}
else t=0;

}
return head;
}

```

// code for traversing the list

```

void traverse(struct node *head)
{ if(head==NULL)
    return;
  printf("%d\t%u\t\t",head->n,head->next);
  traverse(head->next);
}

int sum(struct node *head)
{ if(head==NULL)
    return 0;
  else
    return (head->n + sum(head->next) );
}

```

```
//code for reversing the list
```

```
struct node* rev( struct node *head, struct node *head2)
{ struct node *temp;
  if(head==NULL)
    return NULL;
  temp=head->next;
  head->next=head2;
  if(temp==NULL)
  {
    return head;
  }

  return(rev(temp,head));
}
```

```
void main()
{
  struct node *head=NULL;
  int s=0;
  head=create(head);
  traverse(head);
  s=sum(head);
  printf("\n sum=%d\n\n",s);

  head=rev(head,NULL);
}
```

```
traverse(head);  
}
```